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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,583	02/10/2004	Toshihiko Takeda	00862.021664.1	9531

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EXAMINER	
CLEVELAND, MICHAEL B	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/774,583	TAKEDA ET AL.	
	Examiner	Art Unit	
	Michael Cleveland	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *021004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RE

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 2/10/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. (Applicant has stated that the references were presented in parent application 09/788,411. However, no copies of JP 07-235255 nor KR 1996-0039066 are present in the parent application. Accordingly, new copies are requested for the current application so the references may be fully considered.)

Specification

2. The status of the parent application 09/788,411 (now U.S. Patent 6,726,520) should be updated in the first sentence of the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 41-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 41-43 recite the limitation "the step of applying the voltage" in line 2. There is insufficient antecedent basis for this limitation in the claim because there are two steps of applying a voltage in parent claim 41-43. Therefore, it is unclear which step is referred to by the dependent claims. For the purposes of applying art, the claim has been interpreted as inclusive of either step.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 12-14, 19-25, 30-36, and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahiro et al. (JP 08-171849, hereafter '849).

'849 teaches an electron source manufacturing method characterized by comprising the steps of:

providing a substrate having a conductor and a wiring line connected to the conductor [0093] (Such a substrate must inherently be supported and therefore be arranged on a support member.);

covering the conductor on the substrate with a vessel except for part of the wiring line [0093, 0098, Figs. 8, 11];

setting a desired atmosphere in the vessel [0099]; and

applying a voltage to the conductor via the part of the wiring line [0152].

Claims 13-14, 24-25, 35-36: The vessel may be evacuated of a (carbon-containing) gas that has been introduced into the system [0099].

Claim 19-21, 30-32, 41-43: The temperature of the substrate may be controlled by heating and cooling [0154].

Claims 22-23, 33-34: The substrate has a plurality of devices, each having a pair of electrodes and a conductive film arranged between the pair of electrodes. The wiring lines may be X-direction and Y-direction wiring lines (Figs. 2, 7).

Claims 33-34: The applying step is of finite length and therefore can be regarded as having first and second steps. Also, separate activating and stabilizing steps may be performed after sealing [0098-0099].

8. Claims 12-14, 19-25, 30-36, and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda et al. (U.S. Patent 5,591,061, hereafter '061).

'061 teaches an electron source manufacturing method characterized by comprising the steps of:

arranging on a support member (42) a substrate (43) having a conductor and a wiring line connected to the conductor (col. 17, line 59-col. 18, line 4; col. 23, lines 61-67);

covering the conductor on the substrate with a vessel except for part of the wiring lines (col. 32, line 55-col. 33, line 27; Fig. 11);

setting a (second) desired atmosphere in the vessel (col. 33, lines 41-65); and

applying a voltage to the conductor via the part of the wiring line (col. 33, line 66-col. 34, line 10).

Claims 13, 24: The vessel may be evacuated (col. 33, lines 45-48).

Claims 14, 25, 36: A carbon-containing gas may be introduced into the vessel (col. 33, lines 48-60).

Claim 19-21, 30-32, 41-43: The temperature of the substrate may be controlled by heating. Electron-emitting devices are not used at high temperature, such as 200 °C (col. 34, lines 15-25). Accordingly, the substrates must subsequently be cooled.

Claims 22-23, 33-34: The substrate has a plurality of devices, each having a pair of electrodes and a conductive film arranged between the pair of electrodes. The wiring lines may be X-direction and Y-direction wiring lines (col. 16, lines 50-67).

Claims 33-35: The activation step may be followed by stabilizing, which involves, setting a (first) atmosphere in the vessel by evacuating and applying a voltage via the wiring lines (col. 14, lines 7-36; col. 40, lines 55-57).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 15, 17-18, 26, 28-29, 37, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahiro '849, as applied to claims 12, 22, and 33 above, and further in view of Dvorsky (U.S. Patent 5,886,864, hereafter '864).

'849 teaches controlling the temperature of the device, as discussed above. It does not explicitly teach fixing the substrate to the support nor arranging a heat conduction member between the substrate and support. However, the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.,* 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. '864 teaches the suitability of the provision of a heat conduction member between a substrate and an electrostatic chuck (col. 2, lines 19-34 and 58-67) in order to control the temperature of a substrate during processing of the substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used such a system as the particular means of achieving the desired temperature control of '849 with a reasonable expectation of success because '864 teaches that the system is operative to control the temperature of substrates during processing.

12. Claims 15, 17-18, 26, 28-29, 37, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda '061, as applied to claims 12, 22, and 33 above, and further in view of Dvorsky '864 for substantially the same reasons given immediately above.

13. Claims 15-16, 26-27, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahiro '849, as applied to claims 12, 22, and 33 above, and further in view of Okunuki et al. (U.S. Patent 4,897,552, hereafter '552).

'849 teaches processing an electron-emitting device, as discussed above. It does not explicitly teach fixing the substrate to the support via vacuum chucking. However, the selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.,* 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. '552 teaches the suitability of vacuum chucking to hold

substrates for processing to produce electron-emitting devices (col. 14, lines 12-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used such a vacuum chuck as the particular means of support of the substrate of '849 with a reasonable expectation of success because '552 teaches that vacuum chucks are useful supports for holding substrates during processing.

14. Claims 15-16, 26-27, and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda '061, as applied to claims 12, 22, and 33 above, and further in view of Okunuki '552 for substantially the same reasons given immediately above.

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Multiple rejections based on the same main patent have been grouped together.

16. Claims 12-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-10 and 30 of U.S. Patent No. 6,848,961. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process of '961, claim 1, part a, dominates current claim 1. Claims 2-10 and 30 teach features of the current dependent claims

Claims 22-43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 and 30 of U.S. Patent No. 6,848,961 in

view of Ikeda '061. '961 is described above, but does not explicitly describe 1) that each device is between a pair of electrodes and connected by X- and Y-wiring lines, 2) introducing a carbon-containing gas, or 3) two setting and applying steps. However, such features are known in the art or producing electron-emitting devices, as described in regard to '061 above. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated those features into the claims of '961 with a reasonable expectation of success to have achieved the conventional layouts and purposes described by '061.

17. Claims 12-17, 19, 22, 24-28, 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13-29 of U.S. Patent No. 6,846,213. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process of '213, claim 13 dominates the current claim 1. Claims 14-29 teach further features of the dependent claims

Claims 20-21, 23, 31-39, and 41-43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-29 of U.S. Patent No. 6,846,213 in view of Ikeda '061. '213 is described above, but does not explicitly describe 1) that each device is connected by X- and Y-wiring lines, 2) introducing a carbon-containing gas, 3) two setting and applying steps or 4) heating or cooling. However, such features are known in the art or producing electron-emitting devices, as described in regard to '061 above. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated those features into the claims of '213 with a reasonable expectation of success to have achieved the conventional layouts and purposes described by '061.

Claims 18 and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-29 of U.S. Patent No. 6,846,213 for the reasons given above and further in view of Dvorsky '864 for substantially the same reasons discussed above.

Claim 40 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-29 of U.S. Patent No. 6,846,213 in view of Ikeda '061 for the reasons given above and further in view of Dvorsky '864 for substantially the same reasons discussed above.

18. Claim 12 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542. Although the conflicting claims are not identical, they are not patentably distinct from each other because the process of '542, claim 1, part a, dominates current claim 1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 13-14, 19-25, 30-36, and 41-43 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542 in view of Ikeda '061 because '061 teaches that the features of claims 13-14, 19-25, 30-36, and 41-43 are conventional in the art of manufacturing electron-emitting devices, as discussed at length above.

This is a provisional obviousness-type double patenting rejection.

Claims 15 and 17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542 in view of Dvorsky '864 because '864 teaches that the conventional features of holding substrates, as discussed at length above.

This is a provisional obviousness-type double patenting rejection.

Claims 18, 26, 28-29, 37, and 39-40 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542 in view of Ikeda '061, as applied to claims 22 and 33 above and further in view of Dvorsky '864 because '864 teaches that the conventional features of holding and heating substrates, as discussed at length above.

This is a provisional obviousness-type double patenting rejection.

Claims 15-16 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542 in view of Okunuki '552 because '552 teaches that the conventional features of holding substrates, as discussed at length above.

This is a provisional obviousness-type double patenting rejection.

Claims 26-27 and 37-38 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/913542 in view of Ikeda '061, as applied to claims 22 and 33 above and further in view of Okunuki '552 because '552 teaches that the conventional features of holding substrates, as discussed at length above.

This is a provisional obviousness-type double patenting rejection.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Monday-Thursday, 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Cleveland
Primary Examiner
Art Unit 1762

3/22/2005